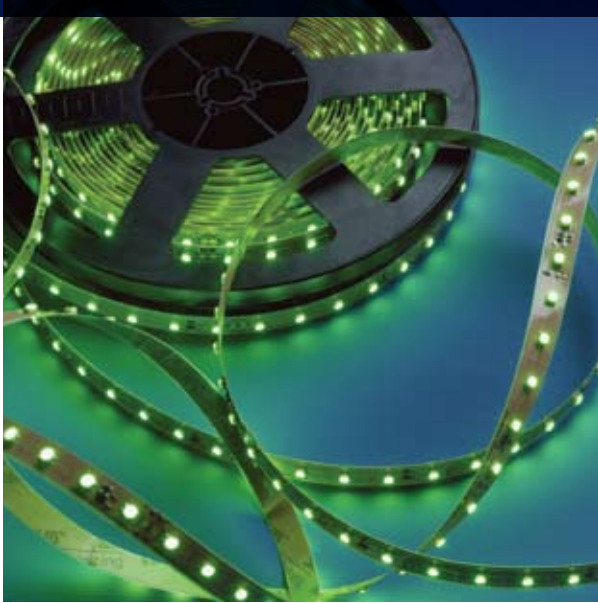


# LINEARlight FLEX TOPLED®

## Flexible White or Colored LED Strips



LINEARlight FLEX modules pair the diminutive size of LEDs with a flexible printed circuit board to achieve a high degree of configuration. These modules are ideally suited to match simple contours and complex three dimensional assembly requirements. These modules are ideal for edge lighting transparent and diffuse materials. They are mounted on self-adhesive tape and can be conveniently field-cut.

LINEARlight FLEX TOPLED is optimally paired with OPTOTRONIC® 24Vdc power supplies.

### Key Features & Benefits

- Linear LED strip on flexible printed circuit board with self-adhesive back for easy installation!
- Contour configurations and three dimensional assembly possible.
- OSRAM Power TOPLED® delivers high luminous flux
- Size of entire module (LxWxH) 27.5ft x 0.4 in. x 0.12 in.
- Conveniently field cut with scissors (smallest unit=10LEDs/5.5")
- Long life: Up to 100,000 hours depending on color. White modules service life is up to 50,000 hours when Tc point is maintained at or below 40°C.
- Available in various colors: red, true green, blue, yellow and white
- Optimal operation with OPTOTRONIC 24Vdc power supplies
- 120° beam angle
- Minimal heat generation

### Product Offering

Ordering Description	Wattage (W)	Color
LNRFLXTP/LM10A/W3F-727 27.5 FT	86.4	2700K
LNRFLXTP/LM10A/W2-847 27.5 FT	86.4	4700K
LNRFLXTP/LM10A/W3F-854 27.5 FT	86.4	5400K
LNRFLXTP/LM10A/W2-854 27.5 FT	86.4	5400K
LNRFLXTP/LM10A/W2-865 27.5 FT	86.4	6500K
LNRFLXTP/617/LM10A/A1 27.5 FT	72	Amber Red
LNRFLXTP/587/LM10A/Y1 27.5 FT	72	Yellow
LNRFLXTP/525/LM10A/T1 27.5 FT	72	True Green
LNRFLXTP/470/LM10A/B1 27.5 FT	72	Blue

### Application Information

#### Applications

- Cove lighting
- Edge lighting transparent/diffuse materials
- Border lighting
- Commercial signs
- Emergency/Rescue signs
- Path and contour marking
- Backlighting complex contours
- Refrigeration cases
- Display shelves
- Recessed lighting

## Specification Data

Catalog #	Type
Project	
Comments	
Prepared by	Date

## Ordering Information

Item Number	Ordering Abbreviation	Module Length (ft)	No. of LEDs	Power (W)	Voltage (Vdc)	Current per module (A)	Color** (wavelength)	Initial Lumens per module (lm)*	Lumens/ft	Watts/ft
70266	LNRFLXTP/LM10A/W3F-727 27.5 FT	27.5	600	86.4	24	3.6	2700K	1720	63	3
70105	LNRFLXTP/LM10A/W2-847 27.5 FT	27.5	600	86.4	24	3.6	4700K	1290	47	3
70291	LNRFLXTP/LM10A/W3F-854 27.5 FT	27.5	600	86.4	24	3.6	5400K	2000	73	3
70089	LNRFLXTP/LM10A/W2-854 27.5 FT	27.5	600	86.4	24	3.6	5400K	1290	47	3
70104	LNRFLXTP/LM10A/W2-865 27.5 FT	27.5	600	86.4	24	3.6	6500K	1290	47	3
70135	LNRFLXTP/617/LM10A/A1 27.5 FT	27.5	600	72	24	3	617 nm	1620	59	2.6
70061	LNRFLXTP/587/LM10A/Y1 27.5 FT	27.5	600	72	24	3	587 nm	1290	47	2.6
70063	LNRFLXTP/525/LM10A/T1 27.5 FT	27.5	600	72	24	3	525 nm	1200	44	2.6
70064	LNRFLXTP/470/LM10A/B1 27.5 FT	27.5	600	72	24	3	469 nm	170	6	2.6

\* All data is related to entire module measured at Tc point of 25°C. Data reflects statistical mean values. Actual data may differ depending on variances in the manufacturing process. End users need to take into account the lumen depreciation as the temperature rises with various thermal management solutions installed.

\*\*CRI >70 for all 3300K. All other white color temperatures have a CRI >80.

## Ordering Guide

<b>LINEARlight FLEX TOPLED</b>	/	<b>617</b>	/	<b>A</b>
Module Name		Wavelength		Color Code
				A = Amber Red, Y = Yellow, T = True Green, B = Blue

## Power Supply Information

LED Item Number	Color	OPTOTRONIC® 6W (51501)		OPTOTRONIC 20W (51512)		OPTOTRONIC 75W (51513, 51514)		OPTOTRONIC 96W (51511, 51599)		OPTOTRONIC 240W (51515)	
		No. of Coupons*	Max. Length (ft)	No. of Coupons*	Max. Length (ft)	No. of reels (coupons)***	Max. Length (ft)**	No. of reels (coupons)	Max. Length (ft)	No. of reels (coupons)	Max. Length (ft)
70266	White	4	1.8	13	6.0	0.9 (52)	23.9	1.1 (66)	30.25	0.9 (55)	3x 25.21
70105	White	4	1.8	13	6.0	0.9 (52)	23.9	1.1 (66)	30.25	0.9 (55)	3x 25.21
70291	White	4	1.8	13	6.0	0.9 (52)	23.9	1.1 (66)	30.25	0.9 (55)	3x 25.21
70089	White	4	1.8	13	6.0	0.9 (52)	23.9	1.1 (66)	30.25	0.9 (55)	3x 25.21
70104	White	4	1.8	13	6.0	0.9 (52)	23.9	1.1 (66)	30.25	0.9 (55)	3x 25.21
70135	Amber Red	5	2.3	16	7.3	1	27.5	1.3 (80)	36.66	1.1 (66)	3x 30.25
70061	Yellow	5	2.3	16	7.3	1	27.5	1.3 (80)	36.66	1.1 (66)	3x 30.25
70063	True Green	5	2.3	16	7.3	1	27.5	1.3 (80)	36.66	1.1 (66)	3x 30.25
70064	Blue	5	2.3	16	7.3	1	27.5	1.3 (80)	36.66	1.1 (66)	3x 30.25

\* A coupon is a sub-section of 10 LINEARlight FLEX TOPLEDs with a length of 5.5".

\*\* Maximum length that can be powered from one end is 13.8 ft. To power entire length of 1 reel connect power feed to the center or to both ends of the reel.

\*\*\* For dimming LINEARlight FLEX TOPLEDs with OT DIM or OT RGB 1CH DIM, allow for an additional power consumption of 3 watts for a 70 watt LED load.

Packaging notes – Order Quantity / Dimensions: 1 reel/7.5" x 7.25" x 1.1"

## Minimum and Maximum Ratings

Parameter	Symbol	Values
Operating Temperature at Tc Point	T <sub>op</sub>	-30... +75°C (-22 to +167°F)
Storage Temperature	T <sub>stg</sub>	-40... +85°C (-22 to +185°F)
Voltage Range	V <sub>max</sub>	23...25
Maximum Reverse Voltage	V <sub>R</sub>	25 V (OV for 70266 and 70291)

Notes:

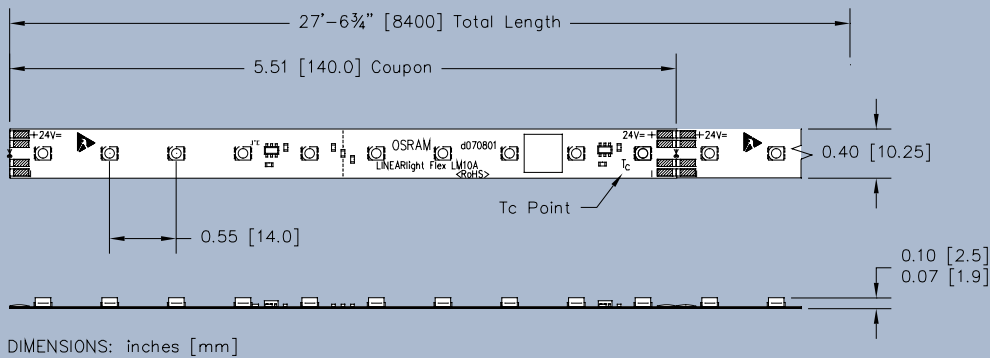
- Exceeding maximum ratings may damage the LED module and cause potential safety hazards.
- Elevated operating temperatures can be expected to negatively impact the service life in terms of lumen output.

## Accessories

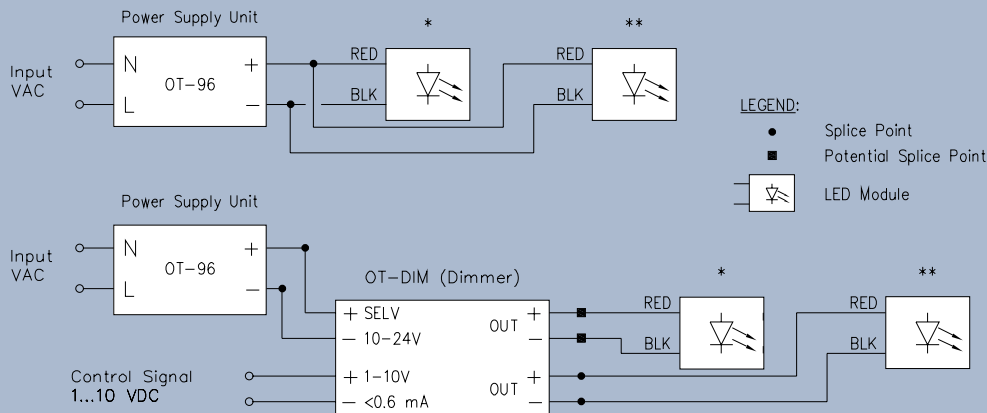


Item Number	Ordering Description	Length (in.)	Width (in.)	Wire Length (in.)
70269	LM2PINFLEXCONN	0.48	0.65	19.69
70263	LM2CONN5FLEXCONNBB	1.4	0.65	0.39
71236	LINEARlight Track 1.6P	18	-	-
71237	LINEARlight Track 4.6P	56	-	-
71238	LINEARlight Track 1.6D	18	-	-
71239	LINEARlight Track 4.6D	56	-	-

## Assembly Diagram



## Wiring Diagram



Diagrams indicate total load and configuration for 1 OT-96 Power Supply.  
Maximum circuit load of 66 coupons (64 coupons if using an OT-DIM).

- \* Maximum of 33 coupons for a single run.
- \*\* Remaining load of 33 coupons (31 coupons if using an OT-DIM).

## Safety Information

**WARNING: ONLY QUALIFIED PERSONNEL SHOULD PERFORM INSTALLATION.**

**TO AVOID ELECTRICAL SHOCK OR COMPONENT DAMAGE, DISCONNECT POWER BEFORE ATTEMPTING INSTALLATION OF THE POWER SUPPLIES AND/OR MODULES.**

Failure to install the power supplies and/or LED modules in accordance with the National Electric Code (NEC), all applicable Federal, State and local electric codes as well as the specific Underwriter's Laboratories (UL) safety standards for the installation, location and application may cause serious personal injury, death, property damage and/or product malfunction.

These instructions are guidelines for installation of SYLVANIA LED modules and power supplies. Installation requirements may vary depending on the application. Licensed electricians should provide all installation services for connection of both primary and secondary (input/output) of the power supplies.

## Safety Information (continued)

1. The LED module itself and all its components may not be mechanically stressed.
2. Assembly must not damage or destroy conducting paths on the circuit board.
3. Correct electrical polarity needs to be observed. Wrong polarity will result in no light emission and may destroy the module.
4. Please ensure that the power supply is of adequate power rating to operate the total load. Follow appropriate NEC requirements.
5. When mounting on metallic or otherwise conductive surfaces, an electrical isolation is required at soldering points between the module and the mounting surface.
6. Pay attention to standard Electrostatic Discharge (ESD) precautions when installing the module.
7. The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion. It is recommended that the user complete all module modifications first (cutting, wiring) and then apply a conformal coating in the final stages of installation.
8. Damage by corrosion will not be honored as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
9. For application involving exposure to humidity and dust the module must be protected by a fixture or housing with a suitable protection glass. The module can be protected against condensation water by treatment with an appropriate circuit board grade conformal coating. The lacquer APL of the company Electrolube <http://www.electrolube.com> has met the conditions for LINEARlight in our tests.

The LED Module incorporates no protection against short circuits, overload or overheating. Therefore it is necessary to operate the modules with an electronically stabilized power supply offering protection against the above mentioned safety risks.

OSRAM OPTOTRONIC power supplies are specifically designed with protection features for safe operation.

When using power supplies other than OPTOTRONIC the following basic safety features should be verified in addition to any other application specific concerns and local safety codes:

- Short circuit protection
- Overload protection
- Overheat protection
- Correct output voltage, including consideration for ripple and spikes.

## Assembly Information

1. Solder connections should only be performed on designated solder pads (marked "24V +/-"). During soldering, do not exceed the maximum soldering time of 10 seconds and the maximum soldering temperature of 260°C.
2. The smallest unit (5.5" – 10 LEDs) can be removed by cutting with scissors between the designated solder pads.
3. The mounting of the module is facilitated by means of the double-sided adhesive on the back-surface of the module. Care must be taken to provide a clean and dry mounting surface, free of oils or silicone coatings as well as dirt particles. The mounting substrate must have sufficient structural integrity. Take care to completely remove the adhesive backing. Once the module is appropriately positioned, press on the module with about 20N/cm<sup>2</sup> (refer to application techniques of 3M adhesive transfer tapes).
4. The minimum bending radius is 2 cm. The module may be bent over a smaller radius but only in regions of the circuit board containing no electronic components. Such bends should be made only once and fixed in position to avoid cyclic fatigue.
5. The thermal expansion coefficient along the length of the module is  $17 \times 10^{-6} \text{cm/cm/K}$ . When installing in environments with large variations in temperature (e.g. outdoor applications) and operating length of more than 2m, the use of metallic mounting surfaces is necessary. Otherwise it is advisable to use an additional thicker adhesive tape to absorb the stress of any mismatch in expansion coefficients.

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